REMARKS

STATUS OF CLAIMS

Claim 26 has been cancelled.

Claims 22, 24, and 27-33 have been amended.

Claims 34-40 have been added.

Claims 1, 3, 4, 22, and 24, 25, 27-40 are pending.

Support for these claim amendments and new claims can be found throughout the specification and in the originally filed claims. For example, support for new Claims 34 and 35 can be found on page 10, lines 4-9; and support for new Claims 36-40 can be found in originally filed Claim 3 part (b). No new matter has been added.

REJECTIONS UNDER 35 U.S.C. § 112, first paragraph

Claims 1, 3, 4, and 24-25 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly lacking enablement. The Examiner notes that the specification is "enabling for a method of impairing movement of a CLA+ memory T cell within or to the skin of a mammal, said method comprising *locally, topically, intradermally, or transdermally administering* to said mammal an effective amount of an antibody against CTACK, whereby administration of said antibody impairs movement of a cutaneous lymphocyte-associated antigen (CLA)+ memory T cell within or to the skin of said mammal." But the Examiner alleges that the specification is not enabling for *systemic administration* of an antibody against CTACK.

> **Claim 1** (from which Claims 3, 4, 24, 25 and 36-40 depend) reads as follows:
> A method for impairing movement of a cutaneous lymphocyte-associated antigen$^+$ (CLA^+) memory T-cell within or to the skin of a mammal, said method comprising administering to said mammal an effective amount of an antibody against cutaneous-T-cell-attracting chemokine (CTACK), whereby administration of said antibody impairs movement of said cutaneous lymphocyte-associated antigen$^-$ memory T-cell within or to the skin of said mammal.
>
> **Claim 3** reads as follows:
> The method of Claim 1, wherein said movement is within said skin.
>
> **Claim 4** reads as follows:
> The method of Claim 1, wherein said antibody neutralizes cutaneous-T-cell-attracting chemokine.
>
> **Amended Claim 24** reads as follows:
> The method of Claim 1, wherein said administering is local.

Claim 25 reads as follows:
The method of Claim 1, wherein said cutaneous lymphocyte-associated antigen$^+$ memory T-cell moves into the dermis or epidermis of said skin.

Notably, the subject-matter of new Claims 36-40 was previously present in Claim 24.

New Claim 36 reads as follows:
The method of Claim 1, wherein said administering is systemic.

New Claim 37 reads as follows:
The method of Claim 1, wherein said administering is topical.

New Claim 38 reads as follows:
The method of Claim 1, wherein said administering is subcutaneous.

New Claim 39 reads as follows:
The method of Claim 1, wherein said administering is intradermal.

New Claim 40 reads as follows:
The method of Claim 1, wherein said administering is transdermal.

Applicants note that contrary to the Examiner's allegation, the specification describes suppression of skin inflammation by *systemic administration* of an antibody against CTACK. Specifically, mice sensitized to di-nitrofluorobenzene (DNFB) received intraperitoneal injections of neutralizing antibodies against mCTACK. See, for example, page 78, lines 24-27. *It is general knowledge that matter injected into the intraperitoneal cavity is taken up systemically.* Here, two hours after the second intraperitoneal injection, the mice were challenged with DNFB on their ear. See, for example, page 78, lines 27-30. Monitoring of DNFB challenge-induced ear swelling (24-72 hours) confirmed significant suppression of skin inflammation in anti-mCTACK-treated mice when compared to mice injected with an isotype control ($p>0.01$). See, for example, page 80, lines 16-18. Furthermore, additional experiments revealed that anti-mCTACK treatment provided superior inhibition of contact allergen-induced skin inflammation compared to pre-treatments with the topical immunosuppressant tacrolimus/FK506 (1%). Notably, topical tacrolimus treatment shows strong clinical efficacy in patients suffering from atopic dermatitis. See, for example, page 80, lines 20-24.

It should be noted that distribution analysis described in the specification on page 65, line 5 to page 68, line 24 show that *CTACK is extremely tissue specific*. See, for example, page 66, lines 26-27. In fact, CTACK is not only highly tissue-specific, but its selective expression in the

skin is restricted to the epidermis. See, for example, page 67, lines 9-11. CTACK message is detected in keratinocytes, the predominant cell type in the epidermis. See, for example, page 67, lines 21-22. Most abundant expression of CTACK was observed in keratinocytes of the basal layers of the epidermis. Upon normal differentiation keratinocytes of suprabasal layers appear to produce lower amounts of CTACK protein. See, for example, page 68, lines 7-9. As CTACK expression is skin-specific, systemic administration of an antibody against CTACK *targets skin specifically*. The suppression of skin inflammation by *systemic administration* of an antibody against CTACK was specifically described in the specification and therefore enables one of skill in the art to practice the claimed invention.

In light of the above arguments, claims 1, 3, 4, 24, 25, and 36-40 are believed to be enabled by the specification. As such, Applicants respectfully request withdrawal of this rejection under 35 U.S.C. § 112, first paragraph.

Claims 22 and 26-33 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly lacking enablement. The Examiner notes that the specification is "enabling for a method of treating a patient suffering from *contact allergen-induced skin inflammation* comprising locally, topically, intradermally, or transdermally administering an effective amount of an antibody against cutaneous-T-cell attracting chemokine (CTACK)." But the Examiner alleges that the specification is not enabling for a method of treating a patient suffering from a *skin disorder* by administering an antibody against CTACK.

Amended Claim 22 (from which Claims 27-35 depend) reads as follows:
A method for treating a patient suffering from an inflammatory skin disorder comprising administering an effective amount of an antibody against cutaneous-T-cell-attracting chemokine.

Claim 27 reads as follows:
The method of Claim 22, wherein said inflammatory skin disorder is allergic-contact dermatitis.

Claim 28 reads as follows:
The method of Claim 22, wherein said inflammatory skin disorder is psoriasis.

Claim 29 reads as follows:
The method of Claim 22, wherein said inflammatory skin disorder is wound healing,

Claim 30 reads as follows:
The method of Claim 22, wherein said inflammatory skin disorder is cancer.

Claim 31 reads as follows:
The method of Claim 22, wherein said inflammatory skin disorder is carcinoma.

Claim 32 reads as follows:
The method of Claim 22, wherein said inflammatory skin disorder is infection.

Claim 33 reads as follows:
The method of Claim 32, wherein said infection is microbial.

Notably, the subject-matter of new Claims 34-35 was previously present in Claim 33.

New Claim 34 reads as follows:
The method of Claim 32, wherein said infection is viral.

New Claim 35 reads as follows:
The method of Claim 32, wherein said infection is parasitic.

CTACK is specifically expressed in skin and selectively chemoattracts CLA+ skin-homing T cells. See, for example, page 70, lines 11-13. The CLA+ memory T cell subset constitutes a skin-associated population of memory cells that preferentially extravasate at normal and chronically inflamed cutaneous sites. This subpopulation has been shown to be involved in local immunity and inflammatory cutaneous reactions. See, for example, page 69, lines 23-28.

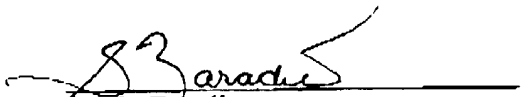
The specification describes the treatment of an *inflammatory* skin disorder by administering an antibody against CTACK. Distribution analysis described in the specification on page 65, line 5 to page 68, line 24 show that CTACK RNA is expressed by human keratinocytes and upregulated by pro-inflammatory cytokines. See, for example, page 65, lines 29-30. Furthermore, CTACK expression was shown to be suppressed after treatment with clobetasol propionate, a known therapeutic for inflammatory or autoimmune skin disease. Notably, the skin disorders claimed, allergic-contact dermatitis, psoriasis, wound healing, cancer, carcinoma and infections (including microbial, viral, and parasitic) *all* involve inflammation. As a nexus between CTACK and inflammation has been demonstrated, Applicants believe these inflammatory skin disorders are within the scope of the claimed invention.

In light of the above amendments and arguments, claims 22, and 27-35 are believed to be enabled by the specification. As such, Applicants respectfully request withdrawal of this rejection under 35 U.S.C. § 112, first paragraph.

CONCLUSION

It is believed that the foregoing amendments and arguments place this application now in condition for allowance. Therefore, favorable action allowing pending claims 1, 3, 4, 22, 24, 25, and 27-40 is respectfully solicited.

Respectfully submitted,



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